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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITYMARK A. EDWARDS PATENT RECORDS
PCT CENTER

To:

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1007 Market Street
Wilmington, Delaware 19898
ETATS-UNIS D'AMERIQUENOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)Date of mailing
(day/month/year) 29.01.2001Applicant's or agent's file reference
FL1066PCT

IMPORTANT NOTIFICATION

International application No.
PCT/US00/07520International filing date (day/month/year)
22/03/2000Priority date (day/month/year)
22/03/1999Applicant
E.I. DU PONT DE NEMOURS AND COMPANY et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



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REY NOTED



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference FL1066PCT	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US00/07520	International filing date (<i>day/month/year</i>) 22/03/2000	Priority date (<i>day/month/year</i>) 22/03/1999	
International Patent Classification (IPC) or national classification and IPC C09K5/04			
Applicant E.I. DU PONT DE NEMOURS AND COMPANY et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application 			
Date of submission of the demand 29/09/2000		Date of completion of this report 29.01.2001	
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div> </div>		Authorized officer olde Scheper, B Telephone No. +49 89 2399 2141	



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/07520

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).):*

Description, pages:

1-35 as originally filed

Claims, No.:

1-5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

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(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-5
	No: Claims
Inventive step (IS)	Yes: Claims 1-5
	No: Claims
Industrial applicability (IA)	Yes: Claims 1-5
	No: Claims

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/07520

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document/s/:

- D1: US-A-5 196 137 (MERCHANT ABID N) 23 March 1993 (1993-03-23) cited in the application
 - D2: WO 97 41189 A (DU PONT) 6 November 1997 (1997-11-06)
 - D3: WO 99 02616 A (DEGROOT RICHARD J ;GREAT LAKES CHEMICAL CORP (US)) 21 January 1999 (1999-01-21) cited in the application
 - D4: EP-A-0 894 851 (ATOCHEM ELF SA) 3 February 1999 (1999-02-03)
 - D5: US-A-5 478 492 (BARTHELEMY PIERRE ET AL) 26 December 1995 (1995-12-26) cited in the application
 - D6: EP-A-0 856 578 (ATOCHEM ELF SA) 5 August 1998 (1998-08-05)
 - D7: EP-A-0 851 016 (AEROSPATIALE ;ATOCHEM ELF SA (FR)) 1 July 1998 (1998-07-01)
 - D8: DATABASE WPI Section Ch, Week 199350 Derwent Publications Ltd., London, GB; Class E16, AN 1993-400552 XP002141722 & JP 05 302098 A (ASAHI GLASS CO LTD), 16 November 1993 (1993-11-16) cited in the application
1. The present application relates to an azeotrope-like 1,1,1,3,3-pentafluorobutane (HFC-365mfc) containing compositions (claims 1-2), a process for cleaning a surface (claim 3), a process for producing refrigeration (claim 4), and a process for producing heat (claim 5).
 2. Prior art.
 - 2.1 The documents D1-D3, and D6 disclose azeotropic/azeotropic-like mixtures comprising 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee).

These documents do neither cite 1,1,1,3,3-pentafluorobutane (HFC-365mfc), nor nonafluoromethoxybutane.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/07520

- 2.2 D4, D5 and D8 disclose azeotropic-like or solvent mixtures comprising 1,1,1,3,3-pentafluorobutane (HFC-365mfc).

These documents do neither cite 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee), nor nonafluoromethoxybutane.

- 2.3 D7 discloses water-repellent compositions comprising polysiloxanes and a fluoro containing compound. Said compound may be 1,1,1,3,3-pentafluorobutane (HFC-365mfc), 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee), or nonafluoromethoxybutane (claim 1, Table 1). Although it is indicated that mixtures of the fluoro-containing compound may be used, no examples are given. The application is silent with respect to any possible use in azeotropic-like compositions.

3. None of the available prior art documents disclose the subject-matter of claims 1-5 on file (Art. 33(2) PCT).
4. Since none of the prior art documents neither suggest, nor provide the skilled person with an incentive to obtain the azeotropic-like compositions as presently claimed, the subject-matter of the claims on file is considered to be not obvious in accordance with Art. 33(3) PCT.
5. The present application satisfies the criterion set forth in Article 33 (4) PCT because the subject matter of Claims 1-5 is industrially applicable.

Re Item VIII

Certain observations on the international application

1. The definitions of azeotropic-like described on page 12, lines 24-32 do not fall within the scope of the claims. The claims define clearly the definition of azeotrope-like, which is also expressed on page 12, line 33 to page 13, line 3). This inconsistency between the claims and the description leads to doubt concerning the matter for which protection is sought, thereby rendering the claims unclear (Article 6 PCT).